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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/800,627 | TANAKA ET AL. | |
| | Examiner | Art Unit | |
| | Toniae M. Thomas | 2822 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 27 Sep 2004.
2. ☒ The allowed claim(s) is/are 1,4,8,12,16,20,24 and 53-64.
3. ☒ The drawings filed on 03 July 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>09/27/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

Election/Restrictions

1. This application is in condition for allowance except for the presence of claims 2, 3, 5-7, 9-11, 13-15, 17-19, 21-23, and 25-52 non-elected without traverse. Accordingly, claims 2, 3, 5-7, 9-11, 13-15, 17-19, 21-23, and 25-52 have been cancelled.

Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claims

Claims 2, 3, 5-7, 9-11, 13-15, 17-19, 21-23, and 25-52 have been cancelled.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance: the prior art record does not anticipate or render obvious a method for manufacturing a semiconductor device substantially as claimed. For example, Maekawa (US 6,066,547), which was relied upon in the final Office action mailed on 21 April 2004, discloses a method of manufacturing a semiconductor device. The method comprises the following steps substantially as claimed:

forming a first semiconductor film comprising amorphous semiconductor over an insulating surface; introducing a metallic element for promoting crystallization into the first semiconductor film; partially crystallizing the first semiconductor film by a heat treatment to form a second semiconductor film in which crystal regions and amorphous regions are intermingled; and annealing the second semiconductor film. While Maekawa teaches that the second semiconductor film may be annealed using an excimer laser (col. 7, lines 47-49), Maekawa fails to anticipate, teach, or suggest laser annealing the second semiconductor film with a laser beam having a wavelength from 360 to 650 nm, so that the crystal regions generated by the heat treatment remain and mainly the amorphous regions are annealed. There is no teaching or suggestion within the prior art of record to modify Maekawa by using a laser having a wavelength from 360 to 650 nm to anneal the second semiconductor film substantially as claimed, so that the crystal regions generated by the heat treatment remain and mainly the amorphous regions are annealed.

4. The newly cited reference, Ohnuma et al. (US 2001,002544 A1) discloses a method of manufacturing a semiconductor device, wherein the method comprises: forming a first semiconductor film comprising amorphous semiconductor over an insulating surface; introducing a metallic element for promoting crystallization into the first semiconductor film; partially crystallizing the first semiconductor film by a heat treatment to form a second semiconductor film in which crystal regions and amorphous regions are

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intermingled; and laser annealing the second semiconductor film to crystallize the second semiconductor film (see, for example, the embodiment described in paragraphs 0081 to 0085). In a first embodiment, the laser annealing is performed using a XeCl excimer laser (par. 0081 to 0085); in a second embodiment, using a KrF excimer laser (paragraphs 0087 and 0088); in a third embodiment, using an ArF excimer laser (paragraphs 0091 and 0092); and in a fourth embodiment, using a third harmonic YAG laser (paragraphs 0095 to 0096). However, the Ohnuma patent differs from the claimed invention in that the patent fails to anticipate, teach, or suggest laser annealing the second semiconductor film with a laser beam having a wavelength from 360 to 650 nm. There is no teaching or suggestion within the prior art of record to modify Ohnuma by using a laser having a wavelength from 360 to 650 nm to anneal the second semiconductor film substantially as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (571) 272-1846. The examiner can normally be reached on Monday-Thursday from 8:30 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MMJ

15 November 2004



Mary Wilczewski
Primary Examiner